



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

*I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on May 9, 2007.*

  
Signature

Appl No.	: 10/718,478	Confirmation No. 8448
Applicant	: Jin-Sung Kim, et al.	
Filed	: November 18, 2003	
Title	: ELECTROLYTE FOR LITHIUM SECONDARY BATTERY AND LITHIUM SECONDARY BATTERY COMPRISING SAME	
TC/A.U.	: 1745	
Examiner	: Robert W. Hodge	
Docket No.	: 51545/P849	
Customer No.	: 23363	

DECLARATION UNDER 37 CFR §1.131

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Post Office Box 7068  
Pasadena, CA 91109-7068  
May 9, 2007

Commissioner:

I, Jin-Sung Kim, declare and state as follows:

1. I believe that I am a joint inventor of the subject matter described and claimed in the above identified patent application, which claims priority of U.S. Patent Application Serial No. 09/766,520, filed on January 19, 2001 and Korean Patent Application Nos. 2000-2947 and 2000-81253, filed in the Korean Intellectual Property Office on January 21, 2000 and December 23, 2000, respectively, the entire contents of which are hereby expressly incorporated by reference.

2. On or before November 30, 1999, Jong-Wook Lee, Kwang-Sik Kim, Young-Gyu Kim, Jong-Seob Kim, Meen-Seon Paik, Hak-Soo Kim, Je-Yun Kim and I conceived the invention claimed in this application. We prepared the attached spreadsheet, generally

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**Reply to Office action of February 9, 2007**

describing exemplary embodiments of the invention, and submitted that spreadsheet to Samsung SDI Co., Ltd., the assignee of this application. The spreadsheet lists H24 as one component of the described embodiment. H24 represents vinyl sulfone. A true and correct copy of the spreadsheet, which is in Korean, and an English translation thereof, except for the dates which have been redacted, are attached to this Declaration as Exhibit A.

3. Attached as Exhibit B is a true and correct copy of a computer screenshot from my computer, except for the dates, which have been redacted. This computer screenshot lists several documents including the Excel spreadsheet discussed above.

4. We worked diligently with our patent attorneys to prepare non-provisional patent applications describing the subject matter set forth in the invention report.

5. Upon receipt of each draft of the non-provisional applications, we reviewed the application to ensure that our inventive concepts were adequately described.

6. The non-provisional patent applications were filed in the Korean Intellectual Property Office on January 21, 2000 and December 23, 2000, and assigned Korean Patent Application Nos. 2000-2947 and 2000-81253, respectively.

7. Non-provisional United States Patent Application No. 09/766,520 was filed on January 19, 2001 in the United States Patent and Trademark Office, claiming priority to Korean Patent Application Nos. 2000-2947 and 2000-81253, filed on January 21, 2000 and December 23, 2000, respectively.

8. Non-provisional United States Patent Application No. 10/718,478 was filed on November 18, 2003 in the United States Patent and Trademark Office, claiming priority to U.S. Patent Application Serial No. 09/766,520 filed on January 19, 2001 and Korean Patent Application Nos. 2000-2947 and 2000-81253, filed on January 21, 2000 and December 23, 2000, respectively.

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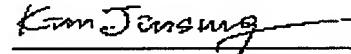
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8. I declare that all statements made herein are of my own knowledge, are true, and that all statements made on information and belief are believed to be true. The statements herein are made with the knowledge that willful false statements are punishable by fine, imprisonment, or both, under Title 18, § 1001 of the United States Code, and that such willful statements may jeopardize the validity of this application or any patent issued on this application.

Date: \_\_\_\_\_

By:



Jin-Sung Kim

LES/les

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the number of Cell	STD average M30	M4:20,M18:10 M4:20,M18:10	object of composition	functional group1	functional group2	amount of addition	conductivity	decompo voltag
H9 average	30	M4:20,M18:10 M4:20,M18:10	securing safety	5 vol%	4.9	5.6	6.7	
H10 average	30	M4:20,M18:10 M4:20,M18:10	securing safety	5 vol%	4.3	4.5		
H12 average	20	M7	securing safety	5 vol%		6.8		
H13 average	20	M7	securing safety	5 vol%		4.7		
H14 average	20	M7	extension of cycle life	2.5 vol%		4.7		
H15 average	20	M7	extension of cycle life	2.5 vol%		5.4		
H16 average	10	M18	extension of cycle life	1 wt%	5.32	5.5		
H17 average	10	M18	extension of cycle life	1 wt%	5.31	5.3		
H18 average	10	M18	alternative solvent	5 wt%	5.84	6.5		
H19 average	10	M18	extension of cycle life	1 wt%	5.34	5.5		
H20 average	10	M18	securing safety	2 wt%	5.16	5.7		
H21 average	10	M18	securing safety	2 wt%	5.13	6.5		
H22 average	10	M28	extension of cycle life	1 wt%	5.13	5.2		
H23 average	10	M28	extension of cycle life	1 wt%	5.25	6.7		
H24 average	10	M28	extension of cycle life	1 wt%	5.3	4		
H25 average	10	M28	extension of cycle life	1 wt%	5.18	6		
H26 average	10	M28	extension of cycle life	1 wt%	5.13	4.8		
H27 average	10	M28	extension of cycle life	1 wt%	5.34	6.2		
H28 average	10	M28	extension of cycle life	1 wt%	5.34	6.7		
H29 average	10	M28	extension of cycle life	1 wt%	5.33			
H30 average	10	M28	extension of cycle life	1 wt%				
H31 average	10	M28	extension of cycle life	1 wt%				
H32 average	10	M28	extension of cycle life	1 wt%				
H33 average	10	M28	extension of cycle life	1 wt%				
H34 average	10	M28	extension of cycle life	1 wt%				
H35 average	10	M28	extension of cycle life	1 wt%				
H36 average	10	M28	extension of cycle life	1 wt%				
H37 average	10	M45-D	flammability	15%				
H38 average	10	M45-D	flammability	15%				
H39 average	10	M45-D	flammability	15%				
H40 average	10	M45-D	alternative solvent	10%				
H41 average	10	M45-D	alternative solvent	10%				
H42 average	10	M45-D	alternative solvent	10%				
H43 average	10	M45-D	alternative solvent	10%				
H44 average	10	M52-B	flammability	10%				
H45 average	10	M52-B	flammability	10%				
H46 average	10	M52-B	flammability	10%				
H47 average	10	M52-B	flammability	10%				
H48 average	10	M52-B	alternative solvent	10%				
H49 average	10	M52-B	alternative solvent	10%				
H50 average	10	M52-B	extension of cycle life	5%				
H51 average	10	M52-B	extension of cycle life	1%				
H52 average	10	M52-B	extension of cycle life	1%				

name	size	class	modified date
first functionality		file folder	
second functionality		file folder	
third functionality		file folder	
fourth functionality		file folder	
five functionality(first flammability)		file folder	
sixth functionality(second flammability)		file folder	
seventh functionality		file folder	
eight functionality(FB,EGD)	114KB	Microsoft Excel work sheet	
functionality lifetime first-fourth.xls	52KB	Microsoft Excel work sheet	
experiment report.xls	206KB	Microsoft Excel work sheet	
ADD_SUM.xls	61KB	JungJum Global Document	
additive.GUL	71KB	Microsoft Excel work sheet	
EGD.xls	96KB	Microsoft Excel work sheet	
FB.xls			

## Verification Statement For Translation

I, PARK, Su-Mi, hereby declare that I am conversant in the Korean and the English languages and that I am the translator of the document attached and certify that to the best of my knowledge and belief the following is a true and correct English translation of the specification contained in Korean Patent Application No. 10-2000-0002947.

Signature :



PARK, Su-Mi

Date :

May 7, 2007